Responses to November 25, 2014 MDEQ Final Comments
on the Area 1 Feasibility Study Report

Issue 1 - Presentation and consistency of SWAC estimates for pre- and post-remediation by alternative and river section is necessary

The presentation of the pre- and post- remediation SWACs rely on decision rules and Geographic Information System (GIS) layers that were not provided to the agencies for review. While some SWACs were confirmed by estimating means directly from the database, other values were substantially different based on preliminary calculations by the MDEQ. Further, the assumptions used for the replacement values (discussed below) should be confirmed for each sediment alternative, and this could not be done without additional information from GP/AMEC.

Based on conversations between AMEC and CDM Smith, the MDEQ understands that the following issues will be addressed in the final draft of the FS.

To allow for checking of FS Tables 1-2 and 4-4, GP/AMEC has provided the necessary GIS data and tables of information that designate:

- Stream tube identification,
- Depth interval,
- PCB estimate,
- Stream section,
- Code or other designation for sample(s) falling within the stream tube and rationale for use (or non-use) in PCB estimate, and
- Remedial limits associated with S-3, S-4, and S-5 and associated designations as used in Appendix J.

The MDEQ understands that this information will be added as a digital only Appendix (CD or DVD) in native file formats to the FS, so that the Administrative Record will contain all information necessary to reproduce the SWAC estimates presented in the FS.

Response: *Compact disc with the requested SWAC calculation documentation have been added to Appendix A (SWAC Methodology) and Appendix J (Pre and Post-Remediation SWAC Calculations for the Remedial Reach). This information was also submitted to MDEQ and CDM (consultant to MDEQ) as requested on October 21, 2014.*

Issue 2 - Method used to estimate fish trend response to remediation needs to be more clear

The MDEQ was concerned that there was an inconsistency in the estimate of fish trend responses to the remedial sediment alternatives. The estimation methods were reviewed in discussions between AMEC, Kern Statistical Services, and CDM Smith during October 2014 and AMEC summarized the results of those discussions in its October 30, 2014 email.[1] Upon implementation of the AMEC clarifications, the MDEQ agrees that these issues have

[1] Email from Cynthia Draper, AMEC to Paul Bucholtz, MDEQ on Thu 10/30/2014 2:12 PM

been resolved for the purposes of the Area 1 FS. However, the MDEQ requests that an additional technical meeting be scheduled between AMEC and Kern Statistical Services to develop a simplified, data driven approach to addressing:

1) Upper and lower confidence bounds on fish tissue initial estimates,
2) Upper and lower confidence limits on fish trend lines, and
3) Estimating the pre- and post-remedial Biota Sediment Accumulation Factor (BSAF), or more generally, the sediment to fish tissue relationship pre- and post-remediation.

The goal of this meeting would be to simplify the process of selecting from various assumptions, models, and correlations used to estimate lower, central, and upper concentrations and trends in fish tissue. The MDEQ will address this issue as part of ongoing discussions in downstream areas of the site.

Response: *The fish tissue projections revised per the October 30, 2014 email from Cynthia Draper to Paul Bucholtz were forwarded to the Work Group on December 2, 2014, and have been incorporated into the final FS.*

Issue 3 - Sensitivity of alternatives to chosen replacement values for sediment needs better development

The use of a replacement value of 1 part per million (ppm) for all sediment remedial alternatives appears to result in some confusion when used to calculate fish tissue trends. The MDEQ proposes that additional replacement values be used to evaluate the various fish tissue time trends across all alternatives. The MDEQ understands that current dredging and capping practices have been demonstrated to achieve post-remedy SWACs below 1 ppm.[2] As the MDEQ concurs with AMEC that the "effect of changing the replacement value is believed to be small" for remedies S-3 and S-4, the approach recommended in this comment will be more important to fully develop for downstream areas.

Response: *The replacement value of 1 mg/kg was previously agreed to by the Work Group because it represents realistic conditions where access may prohibit 100% removal of targeted sediment and takes into account flow conditions in the river that would erode temporary thin-layer caps or allow redeposition of upstream sediment (the post-remedial SWAC in Portage Creek is 1.8 mg/kg, for example). Reducing the replacement value is not expected to substantially reduce these post-SWAC estimates. Text regarding the impact and uncertainty of the replacement value selected has been added to the FS.*

Issue 4 - Consistency in use of contingency assumptions across all cost estimates is necessary

The MDEQ expressed a concern about the consistent use of cost estimating contingency assumptions. We commented that the cost estimates presented in Table 4-9 (S-5), as compared to Tables 4-5 through 4-8 (S-3 and S-4), used higher estimates of contingency on capital costs (45% vs. 35%), project and construction management (10% vs. 5%), and pre-remedial design/sampling/planning ($2.4 million vs. $0.33 million). For the purposes of the FS, the contingency, project management, and construction percentages should be the same across all alternatives. Differences in pre-remedial design/sampling/planning between alternatives should be further itemized rather than presented as a lump sum. As the U.S.

[2] http://www.epa.gov/region5/cleanup/foxriver/pdf/foxriver-pres-2011.pdf

EPA has made similar comments, the MDEQ assumes that this comment will be addressed as part of the final revisions to the draft FS.

Response: *The increased contingency percentages and higher sampling costs for S-5 reflect the higher uncertainty, larger scope, and the much larger area to be addressed/sampled. S-5 addresses 22 miles of river that must be sampled/remediated versus 3 miles for S-3 and S-4; plus the 44 miles of access agreements/access roads/staging areas/construction zone along both banks. As a result, the cost estimates and applied percentages have not been modified in the final FS.*

Issue 5 - Concentrations in tissue and sediment expected to be achieved by the remedy are unclear in the FS

Concentrations in tissue and sediment expected to be achieved by the remedy are unclear in the FS. The FS should clearly state the remedial goals are 0.33 milligrams per kilogram (mg/kg) for sediment which should result in a 0.072 mg/kg tissue concentration for smallmouth bass (this tissue concentration equates to a Hazard Index of HI=1 and near the 10^5 increased cancer risk goal) based on the approved Human Health Risk Assessment.

Response: *Clarifying text has been added to the final FS.*

Issue 6 - Characterization of sediment and floodplain PCB concentrations that will remain (as applicable for each alternative) should be described and presented in the FS

The CSTAG recommendation letter to Region 5[3] states:

The alternatives presented in the FS leave varying amounts of contaminated sediments in place, including some alternatives that may leave sediments with concentrations greater than 50 ppm in the river. In its analysis of the tradeoffs associated with each alternative, CSTAG recommends that the Region clarify the nature and extent of the contaminated sediment that will remain in Area 1 under each alternative. The concentrations of individual samples, SWACs, and areal extent of the contaminated sediment that will remain (i.e., not dredged or capped) should be described.

The MDEQ concurs that a summary of samples, SWACs, and areas that are not remediated should be presented in the FS and/or subsequent decision documents.

Response: *The FS includes data summary maps depicting PCB data throughout Area 1 and the proposed remediation footprints and/or stream tubes pertaining to each alternative. Further assessment of potential residual PCB concentrations above 50 mg/kg will be addressed in the Remedial Design, and be further evaluated as part of Remedial Design sampling. Most of the samples with concentrations greater than 50 mg/kg are associated with TCRA areas and represent pre-TCRA values.*

[3] S. Ellis, EPA to J. Saric, EPA, November 18, 2014